Diabetes Mellitus: Did you know?

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Did you know?

- Diabetes is a major cause of disease or morbidity during and after pregnancy for both mom and baby,
- Hyperglycemia or elevated blood sugar is a major teratogen,
- Hispanic, Native American, African American, East Indian and Asian women have a higher risk of type 2 diabetes mellitus and may enter pregnancy already hyperglycemic,
- Early screening (at first prenatal visit) will help identify your hyperglycemic patients

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Diabetes Defined

Diabetes is a heterogenous set of metabolic diseases all characterized by impaired glucose utilization and resulting in hyperglycemia.

DM1: (no longer known as IDDM)

- Accounts for ~ 5% of all diabetes
- Defect in insulin production - ABSOLUTE deficiency of insulin
- Autoimmune response destroys Beta cells
- Need supplemental insulin produced outside the body for survival and to prevent diabetic ketoacidosis (DKA)

DM2: (no longer known as NIDDM)

- ❖ Accounts for ~ 95% of all diabetes
- ❖ Often associated with obesity and sedentary life style
- ❖ Characterized by insulin resistance and insulin deficiency
- ❖ Managed by diet & exercise alone, or with oral agents, or with insulin
- ❖ Almost all need insulin for optimum control during pregnancy

PRE-DIABETES (Impaired Fasting Glucose (IFG) and/or Impaired Glucose Tolerance (IGT) - Non Pregnant:

- ❖ IFG: Fasting values that are ≥ 100 mg/dl and < 126 mg/dl
- ❖ IGT: Post load values ≥ 140 mg/dl and < 200 mg/dl, 2 hrs after a 75 gm glucose load values

GDM: (not just a pregnancy problem)

- ❖ Accounts for ~ 90% of all diabetes in pregnancy
- ❖ Glucose intolerance first recognized during pregnancy
- ❖ Need diet, exercise ± insulin for optimum control
- ❖ Predictor of subsequent DM2
- ❖ Some studies suggest oral meds may be used in lieu of insulin (see references **1 & 2**)

GDM A1:

- ❖ Gestational Diabetes Mellitus controlled with diet and exercise

GDM A2:

- ❖ Gestational Diabetes Mellitus controlled with diet, exercise and requiring the addition of oral meds and/or insulin

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What is the California Diabetes and Pregnancy Program?

The mission of the California Diabetes and Pregnancy Program (CDAPP) is to improve pregnancy outcomes for women who have preexisting or gestational diabetes by using a multidisciplinary team approach, evidence-based and culturally appropriate strategies for care, as outlined by the "Sweet Success Guidelines for Care".

California is divided into perinatal regions, each with a regional Diabetes and Pregnancy Team that provides training and consultation to clinical staff who utilize the "Sweet Success Guidelines".

The Regional California Diabetes and Pregnancy Team consists of a multidisciplinary group of consultants, including a nurse educator, a physician, a registered dietitian, and a behavior medicine specialist who are are available in each perinatal region to educate, consult with, and mentor new and existing Sweet Success Clinical Affiliates. The CDAPP teams are working to ensure quality diabetes and pregnancy services and to improve access to preconception, pregnancy, and postpartum education to all providers and women of childbearing age.

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What is Sweet Success?

Sweet Success refers to diabetes and pregnancy self-management programs within provider sites throughout California. It is an educational, clinical program that offers multidisciplinary team services during preconception, pregnancy and post-partum. This program was designed by the California Diabetes and Pregnancy Program (CDAPP) a part of the Maternal, Child and Adolescent Health Division of the California Department of Public Health.

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More about the Guidelines

The "Sweet Success Guidelines for Care" are patient management references for multidiscipline providers, including clinical care. "The Guidelines" strive to be evidence based, scientifically supported, and contain up to date standards of care. They are periodically revised by a consensus of recognized experts in the field, who are experienced in setting standards for the care of women experiencing diabetes during pregnancy at various clinical settings throughout the State of California.

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Some not so SWEET facts

Uncontrolled pregestational diabetes is a major cause of birth defects. Using the "Sweet Success Guidelines" for preconception care can reduce the risk of malformations to that of the non-diabetic population (**3**).

Diabetes in pregnancy means much more than a large for gestation baby. We now have evidence that the uncontrolled diabetic intrauterine environment has long term effects, such as obesity, hypertension, and early onset of type 2 diabetes on the offspring (**4, 5**).

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Some SWEET facts

There is a way to address the type 2 diabetes epidemic. Although there are 800,000 new cases every year in the United States, providers of women's health care can help reduce this number. With the knowledge that a family history of diabetes, personal history of gestational diabetes or large for gestational age (LGA) baby, ethnicity including Hispanic, Asian, Native American, African American, East Indian and indigenous Australian places a woman at high risk for already having diabetes, providers can screen for diabetes at the first prenatal visit. Early identification of women with diabetes and subsequent education stressing lifestyle changes (diet and exercise) can prevent or delay the onset of this deadly disease. Sweet Success programs are designed to tackle this challenge (**6, 7**).

Studies have shown that $3.00 to $5.00 are saved for every $1.00 spent on diabetes and pregnancy care. Caring for women who have diabetes is much more costly than the costs associated with the Sweet Success Program - even if only 1 in 10 women makes life style changes (**8, 9, 10**).
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What you can do

If you are not already a part of the California Diabetes and Pregnancy Program's Sweet Success, now is the time to become a part of this diabetes and pregnancy network and provide your patients with the best chance at prevention. Here's how to get involved:
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Refer your patients to trained Sweet Success Affiliates

Call your nearest regional program for more information or finding out about becoming a Sweet Success Affiliate

REFERENCES

1. Rowan JA, Hague WM, Gao W, Battin MR, Moore MP. Metformin versus insulin for the treatment of gestational diabetes. NEJM, May 2008; 358:19.
2. Langer O, Conway DL, Berkus MD, Xenakis E M-J, Gonzales O. A comparison of glyburide and insulin in women with gestational diabetes mellitus. NEJM, 2000; 343:1134-1138.
3. Kitzmiller JL, Combs CA, Buchanan TA, Ratner RE, Kjos S. Preconception care of diabetes: Congenital malformations and spontaneous abortions. Diabetes Care. 1996;19(5):514-41.
4. Silverman BL, Rizzo TA, Cho NH, Metzger BE. Long term effects of the intrauterine environment. Diabetes Care 1998 (suppl 2); 21: B142-49.
5. Rosenbloom AL, Joe JR, Young RS, Winter WE. Emerging epidemic of type 2 diabetes in youth. Diabetes Care. 1999;22(2):345-54.
6. Peters RK, Kjos SL, Xiang A, Buchanan TA, Long term diabetogenic effect of single pregnancy in women with previous gestational diabetes mellitus. Lancet. 1996;347:227-30.
7. Hilary King, MD, DSC. Gestational Diabetes Mellitus Epidemiology of Glucose Intolerance and Gestational Diabetes in Women of Childbearing Age. Diabetes Care Volume 21 Supplement 2 Proceedings of the Fourth International Workshop-Conference on Diabetes in Pregnancy, 1999.
8. York R, Brown LP. Women with diabetes during pregnancy: Sociodemographics, outcomes, and costs of care. Public Health Nursing; 12(5): 290-3; Oct 1995.
9. Kitzmiller JL. Cost Analysis of Diagnosis and Treatment of Gestational Diabetes Mellitus. Clin Obstet Gyn 2000; 43(1): 140-53.
10. GregoryKD, Kjos SL, Peters RK. Cost of non-insulin-dependent diabetes in women with a history of gestational diabetes: Implications for prevention. Obstet Gyn 1993; 81(5): 782-6.

To find a Sweet Success Program near you go to the California Department of Public Health Website: **http://www.cdph.ca.gov/programs/cdapp/Pages/CDAPPCountyListings.aspx**